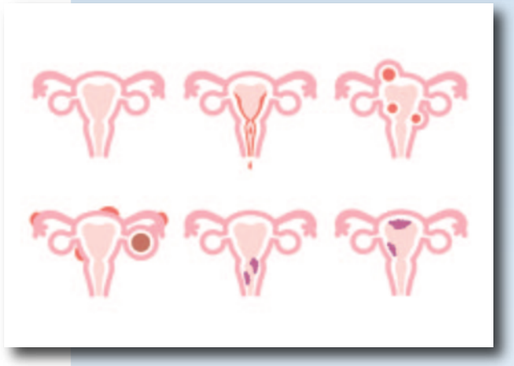
Window on the science



Diagnosing Endometriosis

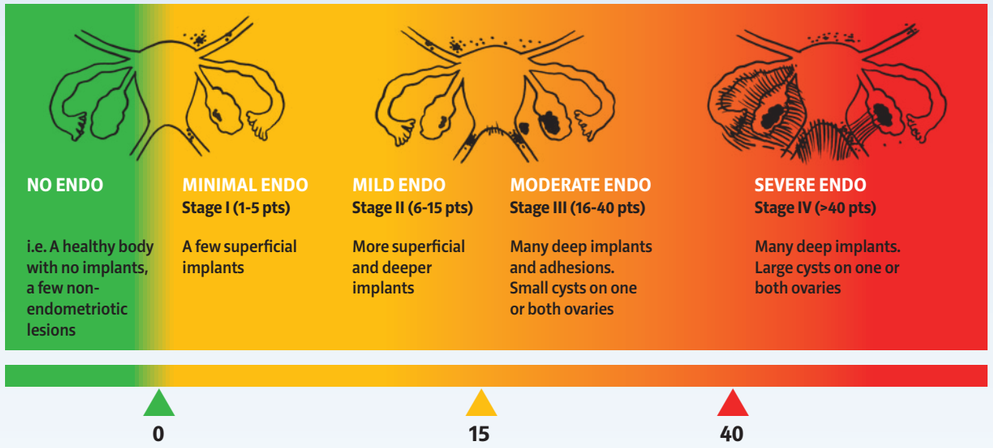
Endometriosis is a common and painful disease affecting up to 1 in 9 women and girls. It occurs when tissue similar to the lining of the uterus (endometrium) grows in other parts of the body where it does not belong. Symptoms of the disease can vary from abnormally painful period cramps to infertility.

Diagnosis currently takes an average of 6.5 years, sometimes involving repeated testing and misdiagnosis. This leaves many patients unable to receive adequate management and treatment.

Source: Endometriosis Australia, 2023

What does endometriosis look like?

Endometriosis does not progress in a predictable or sequential manner. The most used scaling system for the disease's severity assigns points to characteristics of the disease, ranking severity from Stage I/Minimal (1-5 points) to Stage IV/Severe (40+ points).



Source: American Society for Reproductive Medicine

Endometriosis Stages and Common Myths

Myth 1. Endometriosis stages correlate to pain levels
Patients can experience severe pain and disturbances in their quality of life with minimal endometriosis, while some patients with severe endometriosis may be asymptomatic.

Myth 2. Endometriosis can only be widespread in the later stages
Even minimal endometriosis can be widespread.

Myth 3. Endometriosis stages are a linear progression
Unlike most staged diseases, endometriosis does not necessarily advance through stages in a predictable manner.

Proteomics International Laboratories Ltd

Current diagnosis is not precise

The current gold standard tool used for diagnosing endometriosis is an invasive surgical procedure called a laparoscopy. Under anaesthetic, an experienced gynaecological surgeon inserts a thin telescope into a small 'keyhole' incision in the abdomen.

Lesions vary in appearance and many lesions found on the membrane that lines the pelvic cavity (peritoneum) may not be endometriosis. Other causes of pelvic cavity lesions can include chronic inflammation, immune reactions to previous sutures, and epithelial inclusions (misplaced gut cells that form benign cysts). These can often resemble the opaque, white patches found in minimal and mild endometriosis during a laparoscopy.

If the doctor identifies a lesion suspected to be endometriosis, a small tissue sample may be taken and sent for histopathology to confirm the presence of the disease. In this case a trained pathologist will examine the cells under a microscope and use their judgement to determine if the lesion is composed of cells originating from the endometrium.

Since the laparoscopy and pathology both rely only on the doctor's experience and opinion there is a chance that the condition may be misdiagnosed.

PromarkerEndo - a novel blood test for endometriosis

The need for a non-invasive, sensitive, and simple diagnostic test for the early screening of endometriosis is clear. This would allow patients prompt access to management and treatment options.

Proteomics International has developed PromarkerEndo, a novel potential world-first blood test for endometriosis. This test measures biomarkers - protein 'fingerprints' in the blood - associated with the disease to evaluate the severity of endometriosis in patients. The prototype test identified up to 90% of patients with the disease.

Source: World Endometriosis Conference (May 2023)

Laparoscopy relies on doctors' eyes both to accurately identify lesions and then determine whether the cells originated in the endometrium

Like any surgery, laparoscopy has its risks – for example organ perforations and infections

Expensive and invasive: As a highly specialised procedure, laparoscopies can incur high surgery and specialist consultation fees on top of time taken off work